

AMENDMENTS TO THE CLAIMS:

The following listing of claims will replace all prior versions and listings of claims in this application.

LISTING OF CLAIMS:

Claims 1-30 (Canceled)

31. (Previously Presented) A method for the preparation of an aqueous suspension of precipitated silica, having a solids content between 10 and 40% by weight, a viscosity lower than 4×10^{-2} Pa·s at a shear rate of 50 s^{-1} and wherein the amount of silica present in the supernatant obtained after centrifuging said suspension at 7500 revolutions per minute for 30 minutes represents more than 50% of the weight of the silica present in the suspension, consisting of the steps of:

(A) precipitating silica by reacting an acidifying agent with an alkali metal (M) silicate, by:

(i) providing an initial base stock of a proportion of the total amount of the alkali metal silicate introduced into the reaction, the silicate concentration expressed as SiO_2 in said base stock being lower than 20 g/l,

(ii) adding said acidifying agent to said initial base stock until at least 5 % of the amount of M_2O present in said initial base stock is neutralized,

(iii) adding said acidifying agent to the reaction mixture simultaneously with the remaining amount of alkali metal silicate such that the ratio (amount of silica added)/(amount of silica present in the initial base stock) is between 10 and 100;

(B) separating from the reaction mixture a precipitation cake which has a solids content of between 10 and 40%, and, optionally, adding to said precipitation cake, an amount of silica powder such that the solids content of the silica-enriched cake is between 10 and 40%; and

(C) deagglomerating said cake to obtain a suspension of low viscosity and wherein said deagglomerating is conducted under conditions that result in a silica suspension which has a stability such that the amount of silica in the supernatant obtained after centrifuging said suspension at 7500 revolutions per minute for 30 minutes represents more than 50% of the weight of the silica initially present in the suspension.

32. (Previously Presented) A method according to Claim 31, wherein, after step (B), an amount of silica powder is added to said precipitation cake, such that the solids content of the silica-enriched cake is between 10 and 40%.

33. (Previously Presented) A method according to Claim 31, wherein, in step (C), the dilution of said precipitation cake is performed with water.

34. (Previously Presented) A method according to Claim 31, wherein, in step (C), mechanical crumbling of said precipitation cake is performed by a wet grinding process or by an ultrasonic treatment.

35. (Previously Presented) A method according to Claim 31, wherein, in step (C), a chemical crumbling is performed simultaneously with a mechanical crumbling, said chemical crumbling being carried out by acidifying the silica suspension to a pH lower than 4.

36. (Previously Presented) A method according to Claim 31, wherein, in step (C), a chemical crumbling is performed conjointly with a mechanical crumbling, said chemical crumbling being carried out by introducing sulphuric acid and sodium aluminate simultaneously so that the pH of the suspension remains between 6 and 7 and the Al/SiO₂ weight ratio is between 1000 and 3300 ppm.

37. (Previously Presented) A method according to Claim 31, wherein, in step A (iii), sulphuric acid and sodium aluminate are simultaneously added to the reaction mixture, so that the pH of the mixture remains between 6 and 7 and the Al/SiO₂ weight ratio is between 1000 and 3300 ppm, before proceeding to step (B).

38. (Previously Presented) A method according to Claim 31, wherein, in step (C),

(i) said precipitation cake is washed with one or more organic solvents and the cake thus washed is dried to obtain a silica powder, and

(ii) an amount of the said silica powder is suspended in water, such that the silica content of the final suspension is between 10 and 40%.

39. (Previously Presented) A method for the preparation of an aqueous suspension of precipitated silica, having solids content of between 10 and 40% by weight, which viscosity is lower than 4×10^{-2} Pa·s at a shear rate of 50 s^{-1} and wherein the amount of silica present in the supernatant obtained after centrifuging the said suspension at 7500 revolutions per minute for 30 minutes represents more than 50 % of the weight of the silica present in the suspension, consisting of the steps of:

(A) precipitating silica by reacting an acidifying agent with an alkali metal (M) silicate, by:

(i) providing an initial base stock of at least a proportion of the total amount of the alkali metal silicate to be introduced into the reaction, and an electrolyte, the silicate concentration, expressed as SiO_2 in the said initial base stock being lower than 100 g/l and the electrolyte concentration in the said initial base stock being lower than 17 g/l;

(ii) adding the acidifying agent to said base stock until a pH value of the reaction mixture of at least approximately 7 is obtained;

(iii) when only a proportion of the silicate is provided by the initial base stock, adding simultaneously the acidifying and the remaining amount of the silicate to the reaction mixture;

(B) separating from the reaction mixture a precipitation cake which has a solids content of between 10 and 40%, and, optionally, adding to said precipitation cake, an amount of silica powder such that the solids content of the silica-enriched cake is between 10 and 40%; and

(C) deagglomerating said cake to obtain a suspension of agglomerates having a median diameter D_{50} smaller than 5 μm , whereby a suspension of low viscosity is provided and wherein said deagglomerating is conducted under conditions that result in a silica suspension which possesses a stability such that the amount of silica in the supernatant obtained after centrifuging said suspension at 7500 revolutions per minute for 30 minutes represents more than 50% of the weight of the silica initially present in the suspension.

40. (Previously Presented) A method according to Claim 39, wherein, after step (B), an amount of silica powder is added to said precipitation cake, such that the solids content of the silica-enriched cake is between 10 and 40%.

41. (Previously Presented) A method according to Claim 39, wherein, in step (C), the dilution of said precipitation cake is performed with water.

42. (Previously Presented) A method according to Claim 39, wherein, in step (C), mechanical crumbling of said precipitation cake is performed by a wet grinding process or by an ultrasonic treatment.

43. (Previously Presented) A method according to Claim 39, wherein, in step (C), a chemical crumbling is performed simultaneously with a mechanical crumbling, said chemical crumbling being carried out by acidifying the silica suspension to a pH lower than 4.

44. (Previously Presented) A method according to Claim 39, wherein, in step (C), a chemical crumbling is performed conjointly with a mechanical crumbling, said chemical crumbling being carried out by introducing sulphuric acid and sodium aluminate simultaneously so that the pH of the suspension remains between 6 and 7 and the Al/SiO₂ weight ratio is between 1000 and 3300 ppm.

45. (Currently Amended) ~~A method according to Claim 39~~ A method for the preparation of an aqueous suspension of precipitated silica, having solids content of between 10 and 40% by weight, which viscosity is lower than 4×10^{-2} Pa·s at a shear rate of 50 s^{-1} and wherein the amount of silica present in the supernatant obtained after centrifuging the said suspension at 7500 revolutions per minute for 30 minutes represents more than 50 % of the weight of the silica present in the suspension, consisting of the steps of:

(A) precipitating silica by reacting an acidifying agent with an alkali metal (M) silicate, by:

(i) providing an initial base stock of at least a proportion of the total amount of the alkali metal silicate to be introduced into the reaction, and an electrolyte, the silicate concentration, expressed as SiO_2 , in the said initial base stock being lower than 100 g/l and the electrolyte concentration in the said initial base stock being lower than 17 g/l;

(ii) adding the acidifying agent to said base stock until a pH value of the reaction mixture of at least approximately 7 is obtained;

(iii) when only a proportion of the silicate is provided by the initial base stock, adding simultaneously the acidifying and the remaining amount of the silicate to the reaction mixture, wherein [, in step A (iii),] sulphuric acid and sodium aluminate are simultaneously added to the reaction mixture, so that the pH of the mixture remains between 6 and 7 and the Al/ SiO_2 weight ratio is between 1000 and 3300 ppm, before proceeding to step (B);

(B) separating from the reaction mixture a precipitation cake which has a solids content of between 10 and 40%, and, optionally, adding to said precipitation cake, an amount of silica powder such that the solids content of the silica-enriched cake is between 10 and 40%; and

(C) deagglomerating said cake to obtain a suspension of agglomerates having a median diameter D_{50} smaller than 5 μm , whereby a suspension of low viscosity is provided and wherein said deagglomerating is conducted under conditions that result in a silica

suspension which possesses a stability such that the amount of silica in the supernatant obtained after centrifuging said suspension at 7500 revolutions per minute for 30 minutes represents more than 50% of the weight of the silica initially present in the suspension.

46. (Previously Presented) A method according to Claim 39, wherein, in step (C),

(i) the said precipitation cake is washed with one or more organic solvents and the cake thus washed is dried to obtain a silica powder, and

(ii) an amount of the said silica powder is suspended in water, such that the solids content of the final suspension is between 10 and 40 %.

Claims 47-49 (Canceled)

50. (Previously Presented) A method for the preparation of an aqueous suspension of precipitated silica, having a solids content between 10 and 40% by weight, a viscosity lower than 4×10^{-2} Pa·s at a shear rate of 50 s^{-1} and wherein the amount of silica present in the supernatant obtained after centrifuging said suspension at 7500 revolutions per minute for 30 minutes represents more than 50% of the weight of the silica present in the suspension, said preparation method excluding the addition of an electrolyte, comprising the steps of:

(A) precipitating silica by reacting an acidifying agent with an alkali metal (M) silicate, by:

(i) providing an initial base stock of a proportion of the total amount of the alkali metal silicate introduced into the reaction, the silicate concentration expressed as SiO_2 in said base stock being lower than 20 g/l,

(ii) adding said acidifying agent to said initial base stock until at least 5 % of the amount of M_2O present in said initial base stock is neutralized,

(iii) adding said acidifying agent to the reaction mixture simultaneously with the remaining amount of alkali metal silicate such that the ratio (amount of silica added)/(amount of silica present in the initial base stock) is between 10 and 100, and wherein;

(B) separating from the reaction mixture a precipitation cake which has a solids content of between 10 and 40%, and, optionally, adding to said precipitation cake, an amount of silica powder such that the solids content of the silica-enriched cake is between 10 and 40%; and

(C) deagglomerating the said cake to obtain a suspension of low viscosity and wherein said deagglomerating is conducted under conditions that result in a silica suspension which has a stability such that the amount of silica in the supernatant obtained after centrifuging said suspension at 7500 revolutions per minute for 30 minutes represents more than 50% of the weight of the silica initially present in the suspension.

Claim 51 (Canceled)

52. (Previously Presented) A method for the preparation of an aqueous suspension of precipitated silica, having solids content of between 10 and 40% by weight, which viscosity is lower than 4×10^{-2} Pa·s at a shear rate of 50 s^{-1} and wherein the amount of silica present in the supernatant obtained after centrifuging the said suspension at 7500 revolutions per minute for 30 minutes represents more than 50 % of the weight of the silica present in the suspension, said preparation method excluding the addition of an electrolyte, comprising the steps of:

- (A) precipitating silica by reacting an acidifying agent with an alkali metal (M) silicate, by:
 - (i) providing an initial base stock of at least a proportion of the total amount of the alkali metal silicate to be introduced into the reaction, the silicate concentration, expressed as SiO_2 in the said initial base stock being lower than 100 g/l;
 - (ii) adding the acidifying agent to said base stock until a pH value of the reaction mixture of at least approximately 7 is obtained;
 - (iii) when only a proportion of the silicate is provided by the initial base stock, adding simultaneously the acidifying and the remaining amount of the silicate to the reaction mixture;
- (B) separating from the reaction mixture a precipitation cake which has a solids content of between 10 and 40%, and, optionally, adding to said precipitation cake, an

amount of silica powder such that the solids content of the silica-enriched cake is between 10 and 40%; and

(C) deagglomerating said cake to obtain a suspension of agglomerates having a median diameter D_{50} smaller than $5\ \mu\text{m}$, whereby a suspension of low viscosity is provided and wherein said deagglomerating is conducted under conditions that result in a silica suspension which possesses a stability such that the amount of silica in the supernatant obtained after centrifuging said suspension at 7500 revolutions per minute for 30 minutes represents more than 50% of the weight of the silica initially present in the suspension.

Claim 53 (Canceled)